



SEQUENCE LISTING

RECEIVED

JUL 02 2001 MAY 08 2001

TECH CENTER 1600/2900

RECEIVED

JUL 09 2001

TECH CENTER 1600/2900

<110> Estell, David
Harding, Fiona

<120> MUTANT PROTEINS HAVING LOWER ALLERGENIC RESPONSE IN
HUMANS AND METHODS FOR CONSTRUCTING, IDENTIFYING AND
PRODUCING SUCH PROTEINS

<130> GC527

<140> US 09/060,872
<141> 1998-04-15

<160> 211

<170> PatentIn Ver. 2.1

<210> 1
<211> 1495
<212> DNA
<213> Bacillus amyloliquefaciens

<220>
<221> mat_peptide
<222> (417)..(1495)

<220>
<221> CDS
<222> (96)..(1244)

<220>
<221> misc_feature
<222> (96)..(98)
<223> The nnn at positions 96 through 98 represents gtg,
which is to code for methionine.

<220>
<221> misc_feature
<222> (582)..(584)
<223> The nnn at positions 582 through 584 represents
Xaa, which in a preferred embodiment (aat) is to
code for asparagine, but which may also code for
proline.

<220>
<221> misc_feature
<222> (585)..(587)
<223> The nnn at positions 585 through 587 represents
Xaa, which in a preferred embodiment (cct) is to
code for proline, but which may also code for
asparagine.

<220>
<221> misc_feature
<222> (597)..(599)
<223> The nnn at positions 597 to 599 represents Xaa,

RECEIVED
JUL 05 2001
Technology Center 2100

which in a preferred embodiment (aac) is to code for asparagine, but which may also code for aspartic acid.

<220>

<221> misc_feature

<222> (678)..(680)

<223> The nnn at positions 678 through 680 represents Xaa, which in a preferred embodiment (gca) is to code for alanine, but which may also code for serine.

<220>

<221> misc_feature

<222> (681)..(683)

<223> The nnn at positions 681 through 683 represents Xaa, which in a preferred embodiment (tca) is to code for serine, but which may also code for alanine.

<220>

<221> misc_feature

<222> (708)..(710)

<223> The nnn at positions 708 through 710 represents Xaa, which in a preferred embodiment (gct) is to code for alanine, but which may also code for aspartic acid.

<220>

<221> misc_feature

<222> (711)..(713)

<223> The nnn at positions 711 through 713 represents Xaa, which in a preferred embodiment (gac) is to code for aspartic acid, but which may also code for alanine.

<220>

<221> misc_feature

<222> (888)..(890)

<223> The nnn at positions 888 through 890 represents Xaa, which in a preferred embodiment (act) is to code for threonine, but which may also code for serine.

<220>

<221> misc_feature

<222> (891)..(893)

<223> The nnn at positions 891 through 893 represents Xaa, which in a preferred embodiment (tcc) is to code for serine, but which may also code for threonine.

<220>

<221> misc_feature

<222> (1167)..(1169)

<223> The nnn at positions 1167 through 1169 represents Xaa, which in a preferred embodiment (gaa) is to

<400> 1		
gggtctactaa aatattatttc catactatac aattaataca cagaataatc tgtctattgg	60	
ttattctgca aatgaaaaaa aggagaggat aaaga nnn aga ggc aaa aaa gta	113	
		Xaa Arg Gly Lys Lys Val
		-105
tgg atc agt ttg ctg ttt gct tta gcg tta atc ttt acg atg gcg ttc	161	
Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu Ile Phe Thr Met Ala Phe		
		-100 -95 -90
ggc agc aca tcc tct gcc cag gcg gca ggg aaa tca aac ggg gaa aag	209	
Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly Lys Ser Asn Gly Glu Lys		
		-85 -80 -75 -70
aaa tat att gtc ggg ttt aaa cag aca atg agc acg atg agc gcc gct	257	
Lys Tyr Ile Val Gly Phe Lys Gln Thr Met Ser Thr Met Ser Ala Ala		
		-65 -60 -55
aag aag aaa gat gtc att tct gaa aaa ggc ggg aaa gtg caa aag caa	305	
Lys Lys Lys Asp Val Ile Ser Glu Lys Gly Gly Lys Val Gln Lys Gln		
		-50 -45 -40
ttc aaa tat gta gac gca gct tca gct aca tta aac gaa aaa gct gta	353	
Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr Leu Asn Glu Lys Ala Val		
		-35 -30 -25
aaa gaa ttg aaa aaa gac ccg agc gtc gct tac gtt gaa gaa gat cac	401	
Lys Glu Leu Lys Lys Asp Pro Ser Val Ala Tyr Val Glu Glu Asp His		
		-20 -15 -10
gta gca cat gcg tac gcg cag tcc gtg cct tac ggc gta tca caa att	449	
Val Ala His Ala Tyr Ala Gln Ser Val Pro Tyr Gly Val Ser Gln Ile		
		-5 -1 1 5 10
aaa gcc cct gct ctg cac tct caa ggc tac act gga tca aat gtt aaa	497	
Lys Ala Pro Ala Leu His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys		
		15 20 25
gta gcg gtt atc gac agc ggt atc gat tct tct cat cct gat tta aag	545	
Val Ala Val Ile Asp Ser Gly Ile Asp Ser Ser His Pro Asp Leu Lys		
		30 35 40
gta gca ggc gga gcc agc atg gtt cct tct gaa aca nnn nnn ttc caa	593	
Val Ala Gly Gly Ala Ser Met Val Pro Ser Glu Thr Xaa Xaa Phe Gln		
		45 50 55
gac nnn aac tct cac gga act cac gtt gcc ggc aca gtt gcg gct ctt	641	
Asp Xaa Asn Ser His Gly Thr His Val Ala Gly Thr Val Ala Ala Leu		
		60 65 70 75
aat aac tca atc ggt gta tta ggc gtt gcg cca agc nnn nnn ctt tac	689	
Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Xaa Xaa Leu Tyr		
		80 85 90

gct gta aaa gtt ctc ggt nnn nnn ggt tcc ggc caa tac agc tgg atc 737
 Ala Val Lys Val Leu Gly Xaa Xaa Gly Ser Gly Gln Tyr Ser Trp Ile
 95 100 105

att aac gga atc gag tgg gcg atc gca aac aat atg gac gtt att aac 785
 Ile Asn Gly Ile Glu Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn
 110 115 120

atg agc ctc ggc gga cct tct ggt tct gct gct tta aaa gcg gca gtt 833
 Met Ser Leu Gly Gly Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val
 125 130 135

gat aaa gcc gtt gca tcc ggc gtc gta gtc gtt gcg gca gcc ggt aac 881
 Asp Lys Ala Val Ala Ser Gly Val Val Val Val Ala Ala Ala Gly Asn
 140 145 150 155

gaa ggc nnn nnn ggc agc tca agc aca gtg ggc tac cct ggt aaa tac 929
 Glu Gly Xaa Xaa Gly Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr
 160 165 170

cct tct gtc att gca gta ggc gct gtt gac agc agc aac caa aga gca 977
 Pro Ser Val Ile Ala Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala
 175 180 185

tct ttc tca agc gta gga cct gag ctt gat gtc atg gca cct ggc gta 1025
 Ser Phe Ser Ser Val Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val
 190 195 200

tct atc caa agc acg ctt cct gga aac aaa tac ggg gcg tac aac ggt 1073
 Ser Ile Gln Ser Thr Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly
 205 210 215

acg tca atg gca tct ccg cac gtt gcc gga gcg gct gct ttg att ctt 1121
 Thr Ser Met Ala Ser Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu
 220 225 230 235

tct aag cac ccg aac tgg aca aac act caa gtc cgc agc agt tta nnn 1169
 Ser Lys His Pro Asn Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Xaa
 240 245 250

aac acc act aca aaa ctt ggt gat tct ttc tac tat gga aaa ggg ctg 1217
 Asn Thr Thr Thr Lys Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu
 255 260 265

atc aac gta cag gcg gca gct cag taa aacataaaaa accggccttg 1264
 Ile Asn Val Gln Ala Ala Ala Gln
 270 275

gccccgcggg tttttttatt ttttttctc cgcatgttca atccgctcca taatcgacgg 1324

atggctccct ctgaaaattt taacgagaaa cggcgggttg acccggtca gtcccgtaac 1384

ggccaagtcc tgaaacgtct caatcgccgc ttcccggttt ccggtcagct caatgccgta 1444

acggtcggcg gcgttttctt gataccggga gacggcattc gtaatcggt c 1495

<210> 2
 <211> 382
 <212> PRT
 <213> Bacillus amyloliquefaciens

<220>
 <221> VARIANT
 <222> (1)...(382)
 <223> Xaa = Any Amino Acid

<400> 2
 Xaa Arg Gly Lys Lys Val Trp Ile Ser Leu Leu Phe Ala Leu Ala Leu
 1 5 10 15
 Ile Phe Thr Met Ala Phe Gly Ser Thr Ser Ser Ala Gln Ala Ala Gly
 20 25 30
 Lys Ser Asn Gly Glu Lys Lys Tyr Ile Val Gly Phe Lys Gln Thr Met
 35 40 45
 Ser Thr Met Ser Ala Ala Lys Lys Lys Asp Val Ile Ser Glu Lys Gly
 50 55 60
 Gly Lys Val Gln Lys Gln Phe Lys Tyr Val Asp Ala Ala Ser Ala Thr
 65 70 75 80
 Leu Asn Glu Lys Ala Val Lys Glu Leu Lys Lys Asp Pro Ser Val Ala
 85 90 95
 Tyr Val Glu Glu Asp His Val Ala His Ala Tyr Ala Gln Ser Val Pro
 100 105 110
 Tyr Gly Val Ser Gln Ile Lys Ala Pro Ala Leu His Ser Gln Gly Tyr
 115 120 125
 Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp Ser Gly Ile Asp Ser
 130 135 140
 Ser His Pro Asp Leu Lys Val Ala Gly Gly Ala Ser Met Val Pro Ser
 145 150 155 160
 Glu Thr Xaa Xaa Phe Gln Asp Xaa Asn Ser His Gly Thr His Val Ala
 165 170 175
 Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala
 180 185 190
 Pro Ser Xaa Xaa Leu Tyr Ala Val Lys Val Leu Gly Xaa Xaa Gly Ser
 195 200 205
 Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu Trp Ala Ile Ala Asn
 210 215 220
 Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly Pro Ser Gly Ser Ala
 225 230 235 240
 Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala Ser Gly Val Val Val
 245 250 255
 Val Ala Ala Ala Gly Asn Glu Gly Xaa Xaa Gly Ser Ser Ser Thr Val
 260 265 270
 Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala Val Gly Ala Val Asp
 275 280 285
 Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Val Gly Pro Glu Leu Asp
 290 295 300
 Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr Leu Pro Gly Asn Lys
 305 310 315 320
 Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Ser Pro His Val Ala Gly
 325 330 335
 Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn Trp Thr Asn Thr Gln
 340 345 350
 Val Arg Ser Ser Leu Xaa Asn Thr Thr Thr Lys Leu Gly Asp Ser Phe

355 360 365
 Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala Ala Ala Gln
 370 375 380

<210> 3
 <211> 275
 <212> PRT
 <213> Bacillus amyloliquefaciens

<400> 3
 Ala Gln Ser Val Pro Tyr Gly Val Ser Gln Ile Lys Ala Pro Ala Leu
 1 5 10 15
 His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp
 20 25 30
 Ser Gly Ile Asp Ser Ser His Pro Asp Leu Lys Val Ala Gly Gly Ala
 35 40 45
 Ser Met Val Pro Ser Glu Thr Asn Pro Phe Gln Asp Asn Asn Ser His
 50 55 60
 Gly Thr His Val Ala Gly Thr Val Ala Ala Leu Asn Asn Ser Ile Gly
 65 70 75 80
 Val Leu Gly Val Ala Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu
 85 90 95
 Gly Ala Asp Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu
 100 105 110
 Trp Ala Ile Ala Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly
 115 120 125
 Pro Ser Gly Ser Ala Ala Leu Lys Ala Ala Val Asp Lys Ala Val Ala
 130 135 140
 Ser Gly Val Val Val Val Ala Ala Ala Gly Asn Glu Gly Thr Ser Gly
 145 150 155 160
 Ser Ser Ser Thr Val Gly Tyr Pro Gly Lys Tyr Pro Ser Val Ile Ala
 165 170 175
 Val Gly Ala Val Asp Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Val
 180 185 190
 Gly Pro Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr
 195 200 205
 Leu Pro Gly Asn Lys Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Ser
 210 215 220
 Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn
 225 230 235 240

Trp Thr Asn Thr Gln Val Arg Ser Ser Leu Glu Asn Thr Thr Thr Lys
 245 250 255

Leu Gly Asp Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala
 260 265 270

Ala Ala Gln
 275

<210> 4

<211> 275

<212> PRT

<213> Bacillus subtilis

<400> 4

Ala Gln Ser Val Pro Tyr Gly Ile Ser Gln Ile Lys Ala Pro Ala Leu
 1 5 10 15

His Ser Gln Gly Tyr Thr Gly Ser Asn Val Lys Val Ala Val Ile Asp
 20 25 30

Ser Gly Ile Asp Ser Ser His Pro Asp Leu Asn Val Arg Gly Gly Ala
 35 40 45

Ser Phe Val Pro Ser Glu Thr Asn Pro Tyr Gln Asp Gly Ser Ser His
 50 55 60

Gly Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly
 65 70 75 80

Val Leu Gly Val Ser Pro Ser Ala Ser Leu Tyr Ala Val Lys Val Leu
 85 90 95

Asp Ser Thr Gly Ser Gly Gln Tyr Ser Trp Ile Ile Asn Gly Ile Glu
 100 105 110

Trp Ala Ile Ser Asn Asn Met Asp Val Ile Asn Met Ser Leu Gly Gly
 115 120 125

Pro Thr Gly Ser Thr Ala Leu Lys Thr Val Val Asp Lys Ala Val Ser
 130 135 140

Ser Gly Ile Val Val Ala Ala Ala Ala Gly Asn Glu Gly Ser Ser Gly
 145 150 155 160

Ser Thr Ser Thr Val Gly Tyr Pro Ala Lys Tyr Pro Ser Thr Ile Ala
 165 170 175

Val Gly Ala Val Asn Ser Ser Asn Gln Arg Ala Ser Phe Ser Ser Ala
 180 185 190

Gly Ser Glu Leu Asp Val Met Ala Pro Gly Val Ser Ile Gln Ser Thr
 195 200 205

Leu Pro Gly Gly Thr Tyr Gly Ala Tyr Asn Gly Thr Ser Met Ala Thr
 210 215 220

Pro His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Thr
 225 230 235 240

Trp Thr Asn Ala Gln Val Arg Asp Arg Leu Glu Ser Thr Ala Thr Tyr
 245 250 255

Leu Gly Asn Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Gln Ala
 260 265 270

Ala Ala Gln
 275

<210> 5

<211> 274

<212> PRT

<213> Bacillus licheniformis

<400> 5

Ala Gln Thr Val Pro Tyr Gly Ile Pro Leu Ile Lys Ala Asp Lys Val
 1 5 10 15

Gln Ala Gln Gly Phe Lys Gly Ala Asn Val Lys Val Ala Val Leu Asp
 20 25 30

Thr Gly Ile Gln Ala Ser His Pro Asp Leu Asn Val Val Gly Gly Ala
 35 40 45

Ser Phe Val Ala Gly Glu Ala Tyr Asn Thr Asp Gly Asn Gly His Gly
 50 55 60

Thr His Val Ala Gly Thr Val Ala Ala Leu Asp Asn Thr Thr Gly Val
 65 70 75 80

Leu Gly Val Ala Pro Ser Val Ser Leu Tyr Ala Val Lys Val Leu Asn
 85 90 95

Ser Ser Gly Ser Gly Ser Tyr Ser Gly Ile Val Ser Gly Ile Glu Trp
 100 105 110

Ala Thr Thr Asn Gly Met Asp Val Ile Asn Met Ser Leu Gly Gly Ala
 115 120 125

Ser Gly Ser Thr Ala Met Lys Gln Ala Val Asp Asn Ala Tyr Ala Arg
 130 135 140

Gly Val Val Val Val Ala Ala Ala Gly Asn Ser Gly Asn Ser Gly Ser
 145 150 155 160

Thr Asn Thr Ile Gly Tyr Pro Ala Lys Tyr Asp Ser Val Ile Ala Val
 165 170 175

Gly Ala Val Asp Ser Asn Ser Asn Arg Ala Ser Phe Ser Ser Val Gly
 180 185 190

Ala Glu Leu Glu Val Met Ala Pro Gly Ala Gly Val Tyr Ser Thr Tyr

195

200

205

Pro Thr Asn Thr Tyr Ala Thr Leu Asn Gly Thr Ser Met Ala Ser Pro
 210 215 220

His Val Ala Gly Ala Ala Ala Leu Ile Leu Ser Lys His Pro Asn Leu
 225 230 235 240

Ser Ala Ser Gln Val Arg Asn Arg Leu Ser Ser Thr Ala Thr Tyr Leu
 245 250 255

Gly Ser Ser Phe Tyr Tyr Gly Lys Gly Leu Ile Asn Val Glu Ala Ala
 260 265 270

Ala Gln

<210> 6

<211> 269

<212> PRT

<213> Bacillus lentus

<400> 6

Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala
 1 5 10 15

His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp
 20 25 30

Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
 35 40 45

Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr
 50 55 60

His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu
 65 70 75 80

Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
 85 90 95

Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala
 100 105 110

Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser
 115 120 125

Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
 130 135 140

Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser
 145 150 155 160

Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln
 165 170 175

Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile
 180 185 190
 Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr
 195 200 205
 Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala
 210 215 220
 Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
 225 230 235 240
 Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu
 245 250 255
 Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
 260 265

<210> 7
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 7
 Ile Lys Asp Phe His Val Tyr Phe Arg Glu Ser Arg Asp Ala Gly
 1 5 10 15

<210> 8
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 8
 Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val
 1 5 10 15

<210> 9
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 9
 Ala Gln Ser Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala
 1 5 10 15

<210> 10
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 10
Val Pro Trp Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn
1 5 10 15

<210> 11
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 11
Gly Ile Ser Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu
1 5 10 15

<210> 12
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 12
Arg Val Gln Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser
1 5 10 15

<210> 13
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 13
Ala Pro Ala Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys
1 5 10 15

<210> 14
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 14
Ala His Asn Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val
1 5 10 15

<210> 15
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 15
Arg Gly Leu Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr
1 5 10 15

<210> 16
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 16
Thr Gly Ser Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser
1 5 10 15

<210> 17
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 17
Gly Val Lys Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro
1 5 10 15

<210> 18
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 18

Val Ala Val Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Asn
 1 5 10 15

<210> 19
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 19
 Leu Asp Thr Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly
 1 5 10 15

<210> 20
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 20
 Gly Ile Ser Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser
 1 5 10 15

<210> 21
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 21
 Thr His Pro Asp Leu Asn Ile Arg Gly Gly Ala Ser Phe Val Pro
 1 5 10 15

<210> 22
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 22
 Asp Leu Asn Ile Arg Gly Gly Ala Ser Phe Val Pro Gly Glu Pro
 1 5 10 15

<210> 23

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 23
Ile Arg Gly Gly Ala Ser Phe Val Pro Gly Glu Pro Ser Thr Gln
1 5 10 15

<210> 24
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 24
Gly Ala Ser Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn
1 5 10 15

<210> 25
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 25
Phe Val Pro Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly
1 5 10 15

<210> 26
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 26
Gly Glu Pro Ser Thr Gln Asp Gly Asn Gly His Gly Thr His Val
1 5 10 15

<210> 27
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 27
Ser Thr Gln Asp Gly Asn Gly His Gly Thr His Val Ala Gly Thr
1 5 10 15

<210> 28
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 28
Asp Gly Asn Gly His Gly Thr His Val Ala Gly Thr Ile Ala Ala
1 5 10 15

<210> 29
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 29
Gly His Gly Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn
1 5 10 15

<210> 30
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 30
Thr His Val Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly
1 5 10 15

<210> 31
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 31
Ala Gly Thr Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly
1 5 10 15

<210> 32
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 32
Ile Ala Ala Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro
1 5 10 15

<210> 33
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 33
Leu Asn Asn Ser Ile Gly Val Leu Gly Val Ala Pro Ser Ala Glu
1 5 10 15

<210> 34
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 34
Ser Ile Gly Val Leu Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala
1 5 10 15

<210> 35
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 35
Val Leu Gly Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val
1 5 10 15

<210> 36
<211> 15
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 36
Val Ala Pro Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala
1 5 10 15

<210> 37

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 37
Ser Ala Glu Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser
1 5 10 15

<210> 38

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 38
Leu Tyr Ala Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val
1 5 10 15

<210> 39

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 39
Val Lys Val Leu Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile
1 5 10 15

<210> 40

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 40
Leu Gly Ala Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly
1 5 10 15

<210> 41
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 41
Ser Gly Ser Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp
1 5 10 15

<210> 42
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 42
Gly Ser Val Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala Gly Asn
1 5 10 15

<210> 43
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 43
Ser Ser Ile Ala Gln Gly Leu Glu Trp Ala Gly Asn Asn Gly Met
1 5 10 15

<210> 44
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 44
Ala Gln Gly Leu Glu Trp Ala Gly Asn Asn Gly Met His Val Ala
1 5 10 15

<210> 45
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 45
Leu Glu Trp Ala Gly Asn Asn Gly Met His Val Ala Asn Leu Ser
1 5 10 15

<210> 46
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 46
Ala Gly Asn Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser
1 5 10 15

<210> 47
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 47
Asn Gly Met His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser Pro
1 5 10 15

<210> 48
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 48
His Val Ala Asn Leu Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr
1 5 10 15

<210> 49
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 49
Asn Leu Ser Leu Gly Ser Pro Ser Pro Ser Ala Thr Leu Glu Gln
1 5 10 15

<210> 50
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 50
Leu Gly Ser Pro Ser Pro Ser Ala Thr Leu Glu Gln Ala Val Asn
1 5 10 15

<210> 51
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 51
Pro Ser Pro Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr
1 5 10 15

<210> 52
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 52
Ser Ala Thr Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly
1 5 10 15

<210> 53
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 53
Leu Glu Gln Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val

1

5

10

15

<210> 54
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 54
Ala Val Asn Ser Ala Thr Ser Arg Gly Val Leu Val Val Ala Ala
1 5 10 15

<210> 55
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 55
Ser Ala Thr Ser Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn
1 5 10 15

<210> 56
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 56
Ser Arg Gly Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala
1 5 10 15

<210> 57
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 57
Val Leu Val Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile
1 5 10 15

<210> 58
<211> 15

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 58
Val Ala Ala Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro
1 5 10 15

<210> 59
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 59
Ser Gly Asn Ser Gly Ala Gly Ser Ile Ser Tyr Pro Ala Arg Tyr
1 5 10 15

<210> 60
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 60
Ser Gly Ala Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala
1 5 10 15

<210> 61
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 61
Gly Ser Ile Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val
1 5 10 15

<210> 62
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 62
Ser Tyr Pro Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr
1 5 10 15

<210> 63
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 63
Ala Arg Tyr Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln Asn
1 5 10 15

<210> 64
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 64
Ala Asn Ala Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg
1 5 10 15

<210> 65
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 65
Met Ala Val Gly Ala Thr Asp Gln Asn Asn Asn Arg Ala Ser Phe
1 5 10 15

<210> 66
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 66
Gly Ala Thr Asp Gln Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr
1 5 10 15

<210> 67
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 67
Asp Gln Asn Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly
1 5 10 15

<210> 68
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 68
Asn Asn Arg Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile
1 5 10 15

<210> 69
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 69
Ala Ser Phe Ser Gln Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro
1 5 10 15

<210> 70
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 70
Ser Gln Tyr Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn
1 5 10 15

<210> 71
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 71

Gly Ala Gly Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser
1 5 10 15

<210> 72

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 72

Leu Asp Ile Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro
1 5 10 15

<210> 73

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 73

Val Ala Pro Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr
1 5 10 15

<210> 74

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 74

Gly Val Asn Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser
1 5 10 15

<210> 75

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 75

Val Gln Ser Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn Gly
 1 5 10 15

<210> 76
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 76
 Thr Tyr Pro Gly Ser Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met
 1 5 10 15

<210> 77
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 77
 Gly Ser Thr Tyr Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro
 1 5 10 15

<210> 78
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 78
 Tyr Ala Ser Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala
 1 5 10 15

<210> 79
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 79
 Leu Asn Gly Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala
 1 5 10 15

<210> 80

<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 80

Thr Ser Met Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val
1 5 10 15

<210> 81
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 81

Ala Thr Pro His Val Ala Gly Ala Ala Ala Leu Val Lys Gln Lys
1 5 10 15

<210> 82
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 82

His Val Ala Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser
1 5 10 15

<210> 83
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 83

Gly Ala Ala Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn
1 5 10 15

<210> 84
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 84

Ala Leu Val Lys Gln Lys Asn Pro Ser Trp Ser Asn Val Gln Ile
1 5 10 15

<210> 85

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 85

Lys Gln Lys Asn Pro Ser Trp Ser Val Asn Gln Ile Arg Asn His
1 5 10 15

<210> 86

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 86

Asn Pro Ser Trp Ser Asn Val Gln Ile Arg Asn His Leu Lys Asn
1 5 10 15

<210> 87

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 87

Trp Ser Asn Val Gln Ile Arg Asn His Leu Lys Asn Thr Ala Thr
1 5 10 15

<210> 88

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 88

Val Gln Ile Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly
1 5 10 15

<210> 89
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 89
Arg Asn His Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn
1 5 10 15

<210> 90
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 90
Leu Lys Asn Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly
1 5 10 15

<210> 91
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 91
Thr Ala Thr Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly Leu
1 5 10 15

<210> 92
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 92
Ser Leu Gly Ser Thr Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala
1 5 10 15

<210> 93
<211> 15
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 93

Ser Thr Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala
1 5 10 15

<210> 94

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 94

Asn Leu Tyr Gly Ser Gly Leu Val Asn Ala Glu Ala Ala Thr Arg
1 5 10 15

<210> 95

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 95

Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val
1 5 10 15

<210> 96

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 96

Pro Leu Arg Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His
1 5 10 15

<210> 97

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 97
Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His Ala Thr Gly
1 5 10 15

<210> 98
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 98
Leu Ser Leu Gly Ser Gly Phe Trp His Ala Thr Gly Arg His Ser
1 5 10 15

<210> 99
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 99
Gly Ser Gly Phe Trp His Ala Thr Gly Arg His Ser Ser Arg Arg
1 5 10 15

<210> 100
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 100
Phe Trp His Ala Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg
1 5 10 15

<210> 101
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 101
Ala Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro
1 5 10 15

<210> 102
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 102
Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln Val
1 5 10 15

<210> 103
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 103
Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln Val Ala Gln Thr
1 5 10 15

<210> 104
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 104
Leu Leu Arg Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala
1 5 10 15

<210> 105
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 105
Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala Asp Val Leu
1 5 10 15

<210> 106
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 106

Arg	Gln	Val	Ala	Gln	Thr	Leu	Gln	Ala	Asp	Val	Leu	Trp	Gln	Met
1				5					10					15

<210> 107

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 107

Ala	Gln	Thr	Leu	Gln	Ala	Asp	Val	Leu	Trp	Gln	Met	Gly	Tyr	Thr
1				5					10					15

<210> 108

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 108

Leu	Gln	Ala	Asp	Val	Leu	Trp	Gln	Met	Gly	Tyr	Thr	Gly	Ala	Asn
1				5					10					15

<210> 109

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 109

Asp	Val	Leu	Trp	Gln	Met	Gly	Tyr	Thr	Gly	Ala	Asn	Val	Arg	Val
1				5					10					15

<210> 110

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 110

Trp	Gln	Met	Gly	Tyr	Thr	Gly	Ala	Asn	Val	Arg	Val	Ala	Val	Phe
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1

5

10

15

<210> 111

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 111

Gly	Tyr	Thr	Gly	Ala	Asn	Val	Arg	Val	Ala	Val	Phe	Asp	Thr	Gly
1				5					10					15

<210> 112

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 112

Gly	Ala	Asn	Val	Arg	Val	Ala	Val	Phe	Asp	Thr	Gly	Leu	Ser	Glu
1				5					10					15

<210> 113

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 113

Val	Arg	Val	Ala	Val	Phe	Asp	Thr	Gly	Leu	Ser	Glu	Lys	His	Pro
1				5					10					15

<210> 114

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 114

Ala	Val	Phe	Asp	Thr	Gly	Leu	Ser	Glu	Lys	His	Pro	His	Phe	Lys
1				5					10					15

<210> 115

<211> 15

<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 115

Asp	Thr	Gly	Leu	Ser	Glu	Lys	His	Pro	His	Phe	Lys	Asn	Val	Lys
1				5					10					15

<210> 116

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 116

Leu	Ser	Glu	Lys	His	Pro	His	Phe	Lys	Asn	Val	Lys	Glu	Arg	Thr
1				5					10					15

<210> 117

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 117

Lys	His	Pro	His	Phe	Lys	Asn	Val	Lys	Glu	Arg	Thr	Asn	Trp	Thr
1				5					10					15

<210> 118

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 118

His	Phe	Lys	Asn	Val	Lys	Glu	Arg	Thr	Asn	Trp	Thr	Asn	Glu	Arg
1				5					10					15

<210> 119

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 119
Asn Val Lys Glu Arg Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp
1 5 10 15

<210> 120
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 120
Glu Arg Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu
1 5 10 15

<210> 121
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 121
Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly
1 5 10 15

<210> 122
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 122
Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val
1 5 10 15

<210> 123
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 123
Thr Leu Asp Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val
1 5 10 15

<210> 124
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 124
Asp Gly Leu Gly His Gly Thr Phe Val Ala Gly Val Ile Ala Ser
1 5 10 15

<210> 125
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 125
Gly His Gly Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu
1 5 10 15

<210> 126
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 126
Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly
1 5 10 15

<210> 127
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 127
Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro
1 5 10 15

<210> 128
<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 128

Ile Ala Ser Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu
1 5 10 15

<210> 129

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 129

Met Arg Glu Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu His Ile
1 5 10 15

<210> 130

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 130

Cys Gln Gly Phe Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val
1 5 10 15

<210> 131

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 131

Phe Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn
1 5 10 15

<210> 132

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 132

Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val
 1 5 10 15

<210> 133
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 133
 Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr
 1 5 10 15

<210> 134
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 134
 Phe Arg Val Phe Thr Asn Asn Gln Val Ser Tyr Thr Ser Trp Phe
 1 5 10 15

<210> 135
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 135
 Phe Thr Asn Asn Gln Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala
 1 5 10 15

<210> 136
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 136
 Asn Gln Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr
 1 5 10 15

<210> 137

<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 137

Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu
1 5 10 15

<210> 138

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 138

Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu Lys Lys Ile
1 5 10 15

<210> 139

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 139

Leu Asp Ala Phe Asn Tyr Ala Ile Leu Lys Lys Ile Asp Val Leu
1 5 10 15

<210> 140

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 140

Phe Asn Tyr Ala Ile Leu Lys Lys Ile Asp Val Leu Asn Leu Ser
1 5 10 15

<210> 141

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 141

Ala Ile Leu Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly
1 5 10 15

<210> 142

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 142

Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe
1 5 10 15

<210> 143

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 143

Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His
1 5 10 15

<210> 144

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 144

Asn Leu Ser Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val
1 5 10 15

<210> 145

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 145

Ile Gly Gly Pro Asp Phe Met Asp His Pro Phe Val Asp Lys Val
1 5 10 15

<210> 146
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 146
Pro Asp Phe Met Asp His Pro Phe Val Asp Lys Val Trp Glu Leu
1 5 10 15

<210> 147
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 147
Met Asp His Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn
1 5 10 15

<210> 148
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 148
Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile
1 5 10 15

<210> 149
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 149
Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val Ile Met Val Ser
1 5 10 15

<210> 150
<211> 15
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 150

Trp	Glu	Leu	Thr	Ala	Asn	Asn	Val	Ile	Met	Val	Ser	Ala	Ile	Gly
1					5				10					15

<210> 151

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 151

Thr	Ala	Asn	Asn	Val	Ile	Met	Val	Ser	Ala	Ile	Gly	Asn	Asp	Gly
1				5					10					15

<210> 152

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 152

Asn	Val	Ile	Met	Val	Ser	Ala	Ile	Gly	Asn	Asp	Gly	Pro	Leu	Tyr
1				5					10					15

<210> 153

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 153

Met	Val	Ser	Ala	Ile	Gly	Asn	Asp	Gly	Pro	Leu	Tyr	Gly	Thr	Ile
1				5					10					15

<210> 154

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 154
 Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro
 1 5 10 15

<210> 155
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 155
 Asn Asp Gly Pro Leu Tyr Gly Thr Leu Asn Asn Pro Ala Asp Gln
 1 5 10 15

<210> 156
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 156
 Pro Leu Tyr Gly Thr Leu Asn Asn Pro Ala Asp Gln Met Asp Val
 1 5 10 15

<210> 157
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 157
 Gly Thr Leu Asn Asn Pro Ala Asp Gln Met Asp Val Ile Gly Val
 1 5 10 15

<210> 158
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 158
 Asn Asn Pro Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile
 1 5 10 15

<210> 159
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 159
Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile Asp Phe Glu
1 5 10 15

<210> 160
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 160
Met Asp Val Ile Gly Val Gly Gly Ile Asp Phe Glu Asp Asn Ile
1 5 10 15

<210> 161
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 161
Ile Gly Val Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala Arg Phe
1 5 10 15

<210> 162
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 162
Gly Gly Ile Asp Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg
1 5 10 15

<210> 163
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 163
Asp Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr
1 5 10 15

<210> 164
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 164
Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu
1 5 10 15

<210> 165
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 165
Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Gly
1 5 10 15

<210> 166
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 166
Ser Ser Arg Gly Met Thr Thr Trp Glu Leu Pro Gly Gly Tyr Gly
1 5 10 15

<210> 167
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 167
Gly Met Thr Thr Trp Glu Leu Pro Gly Gly Tyr Gly Arg Met Lys

1

5

10

15

<210> 168
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 168
Thr Trp Glu Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile
1 5 10 15

<210> 169
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 169
Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr
1 5 10 15

<210> 170
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 170
Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly
1 5 10 15

<210> 171
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 171
Arg Met Lys Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly
1 5 10 15

<210> 172
<211> 15

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 172
Pro Asp Ile Val Thr Tyr Gly Ala Gly Val Arg Gly Ser Gly Val
1 5 10 15

<210> 173
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 173
Val Thr Tyr Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly
1 5 10 15

<210> 174
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 174
Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala
1 5 10 15

<210> 175
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 175
Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly
1 5 10 15

<210> 176
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 176
Ser Gly Val Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val
1 5 10 15

<210> 177
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 177
Lys Gly Gly Cys Arg Ala Leu Ser Gly Thr Ser Val Ala Ser Pro
1 5 10 15

<210> 178
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 178
Cys Arg Ala Leu Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala
1 5 10 15

<210> 179
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 179
Leu Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val
1 5 10 15

<210> 180
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 180
Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu
1 5 10 15

<210> 181
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 181
Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr
1 5 10 15

<210> 182
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 182
Val Val Ala Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln Lys
1 5 10 15

<210> 183
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 183
Gly Ala Val Thr Leu Leu Val Ser Thr Val Gln Lys Arg Glu Leu
1 5 10 15

<210> 184
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 184
Thr Leu Leu Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro
1 5 10 15

<210> 185
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 185
Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met
1 5 10 15

<210> 186
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 186
Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala
1 5 10 15

<210> 187
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 187
Arg Glu Leu Val Asn Pro Ala Ser Met Lys Gln Ala Leu Ile Ala
1 5 10 15

<210> 188
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 188
Val Asn Pro Ala Ser Met Lys Gln Ala Leu Ile Ala Ser Ala Arg
1 5 10 15

<210> 189
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 189

Ala Ser Met Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro
 1 5 10 15

<210> 190
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 190
 Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn
 1 5 10 15

<210> 191
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 191
 Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu
 1 5 10 15

<210> 192
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 192
 Ser Ala Arg Arg Leu Pro Gly Val Asn Met Phe Glu Gln Gly His
 1 5 10 15

<210> 193
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic

<400> 193
 Arg Leu Pro Gly Val Asn Met Phe Glu Gln Gly His Gly Lys Leu
 1 5 10 15

<210> 194

<211> 15
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 194

Gly Val Asn Met Phe Glu Gln Gly His Gly Lys Leu Asp Leu Leu
1 5 10 15

<210> 195

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 195

Met Phe Glu Gln Gly His Gly Lys Leu Asp Leu Leu Arg Ala Tyr
1 5 10 15

<210> 196

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 196

Gln Gly His Gly Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu
1 5 10 15

<210> 197

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 197

Gly Lys Leu Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr
1 5 10 15

<210> 198

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 198

Asp Leu Leu Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro Gln
1 5 10 15

<210> 199

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 199

Arg Ala Tyr Gln Ile Leu Asn Ser Tyr Lys Pro Gln Ala Ser Leu
1 5 10 15

<210> 200

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 200

Gln Ile Leu Asn Ser Tyr Lys Pro Gln Ala Ser Leu Ser Pro Ser
1 5 10 15

<210> 201

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 201

Asn Ser Tyr Lys Pro Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp
1 5 10 15

<210> 202

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 202

Lys Pro Gln Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu
1 5 10 15

<210> 203
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 203
Ala Ser Leu Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr
1 5 10 15

<210> 204
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 204
Ser Pro Ser Tyr Ile Asp Leu Thr Glu Cys Pro Tyr Met Trp Pro
1 5 10 15

<210> 205
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 205
Tyr Ile Asp Leu Thr Glu Cys Pro Tyr Met Trp Pro Tyr Cys Ser
1 5 10 15

<210> 206
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic

<400> 206
Leu Thr Glu Cys Pro Tyr Met Trp Pro Tyr Cys Ser Gln Pro Ile
1 5 10 15

<210> 207
<211> 15
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 207

Cys Pro Tyr Met Trp Pro Tyr Cys Ser Gln Pro Ile Tyr Tyr Gly
1 5 10 15

<210> 208

<211> 1052

<212> PRT

<213> Homo sapiens

<400> 208

Met Lys Leu Val Asn Ile Trp Leu Leu Leu Leu Val Val Leu Leu Cys
1 5 10 15

Gly Lys Lys His Leu Gly Asp Arg Leu Glu Lys Lys Ser Phe Glu Lys
20 25 30

Ala Pro Cys Pro Gly Cys Ser His Leu Thr Leu Lys Val Glu Phe Ser
35 40 45

Ser Thr Val Val Glu Tyr Glu Tyr Ile Val Ala Phe Asn Gly Tyr Phe
50 55 60

Thr Ala Lys Ala Arg Asn Ser Phe Ile Ser Ser Ala Leu Lys Ser Ser
65 70 75 80

Glu Val Asp Asn Trp Arg Ile Ile Pro Arg Asn Asn Pro Ser Ser Asp
85 90 95

Tyr Pro Ser Asp Phe Glu Val Ile Gln Ile Lys Glu Lys Gln Lys Ala
100 105 110

Gly Leu Leu Thr Leu Glu Asp His Pro Asn Ile Lys Arg Val Thr Pro
115 120 125

Gln Arg Lys Val Phe Arg Ser Leu Lys Tyr Ala Glu Ser Asp Pro Thr
130 135 140

Val Pro Cys Asn Glu Thr Arg Trp Ser Gln Lys Trp Gln Ser Ser Arg
145 150 155 160

Pro Leu Arg Arg Ala Ser Leu Ser Leu Gly Ser Gly Phe Trp His Ala
165 170 175

Thr Gly Arg His Ser Ser Arg Arg Leu Leu Arg Ala Ile Pro Arg Gln
180 185 190

Val Ala Gln Thr Leu Gln Ala Asp Val Leu Trp Gln Met Gly Tyr Thr
195 200 205

Gly Ala Asn Val Arg Val Ala Val Phe Asp Thr Gly Leu Ser Glu Lys
210 215 220

His	Pro	His	Phe	Lys	Asn	Val	Lys	Glu	Arg	Thr	Asn	Trp	Thr	Asn	Glu	225	230	235	240
Arg	Thr	Leu	Asp	Asp	Gly	Leu	Gly	His	Gly	Thr	Phe	Val	Ala	Gly	Val	245	250	255	
Ile	Ala	Ser	Met	Arg	Glu	Cys	Gln	Gly	Phe	Ala	Pro	Asp	Ala	Glu	Leu	260	265	270	
His	Ile	Phe	Arg	Val	Phe	Thr	Asn	Asn	Gln	Val	Ser	Tyr	Thr	Ser	Trp	275	280	285	
Phe	Leu	Asp	Ala	Phe	Asn	Tyr	Ala	Ile	Leu	Lys	Lys	Ile	Asp	Val	Leu	290	295	300	
Asn	Leu	Ser	Ile	Gly	Gly	Pro	Asp	Phe	Met	Asp	His	Pro	Phe	Val	Asp	305	310	315	320
Lys	Val	Trp	Glu	Leu	Thr	Ala	Asn	Asn	Val	Ile	Met	Val	Ser	Ala	Ile	325	330	335	
Gly	Asn	Asp	Gly	Pro	Leu	Tyr	Gly	Thr	Leu	Asn	Asn	Pro	Ala	Asp	Gln	340	345	350	
Met	Asp	Val	Ile	Gly	Val	Gly	Gly	Ile	Asp	Phe	Glu	Asp	Asn	Ile	Ala	355	360	365	
Arg	Phe	Ser	Ser	Arg	Gly	Met	Thr	Thr	Trp	Glu	Leu	Pro	Gly	Gly	Tyr	370	375	380	
Gly	Arg	Met	Lys	Pro	Asp	Ile	Val	Thr	Tyr	Gly	Ala	Gly	Val	Arg	Gly	385	390	395	400
Ser	Gly	Val	Lys	Gly	Gly	Cys	Arg	Ala	Leu	Ser	Gly	Thr	Ser	Val	Ala	405	410	415	
Ser	Pro	Val	Val	Ala	Gly	Ala	Val	Thr	Leu	Leu	Val	Ser	Thr	Val	Gln	420	425	430	
Lys	Arg	Glu	Leu	Val	Asn	Pro	Ala	Ser	Met	Lys	Gln	Ala	Leu	Ile	Ala	435	440	445	
Ser	Ala	Arg	Arg	Leu	Pro	Gly	Val	Asn	Met	Phe	Glu	Gln	Gly	His	Gly	450	455	460	
Lys	Leu	Asp	Leu	Leu	Arg	Ala	Tyr	Gln	Ile	Leu	Asn	Ser	Tyr	Lys	Pro	465	470	475	480
Gln	Ala	Ser	Leu	Ser	Pro	Ser	Tyr	Ile	Asp	Leu	Thr	Glu	Cys	Pro	Tyr	485	490	495	
Met	Trp	Pro	Tyr	Cys	Ser	Gln	Pro	Ile	Tyr	Tyr	Gly	Gly	Met	Pro	Thr	500	505	510	
Val	Val	Asn	Val	Thr	Ile	Leu	Asn	Gly	Met	Gly	Val	Thr	Gly	Arg	Ile	515	520	525	

Val Asp Lys Pro Asp Trp Gln Pro Tyr Leu Pro Gln Asn Gly Asp Asn
 530 535 540
 Ile Glu Val Ala Phe Ser Tyr Ser Ser Val Leu Trp Pro Trp Ser Gly
 545 550 555 560
 Tyr Leu Ala Ile Ser Ile Ser Val Thr Lys Lys Ala Ala Ser Trp Glu
 565 570 575
 Gly Ile Ala Gln Gly His Val Met Ile Thr Val Ala Ser Pro Ala Glu
 580 585 590
 Thr Glu Ser Lys Asn Gly Ala Glu Gln Thr Ser Thr Val Lys Leu Pro
 595 600 605
 Ile Lys Val Lys Ile Ile Pro Thr Pro Pro Arg Ser Lys Arg Val Leu
 610 615 620
 Trp Asp Gln Tyr His Asn Leu Arg Tyr Pro Pro Gly Tyr Phe Pro Arg
 625 630 635 640
 Asp Asn Leu Arg Met Lys Asn Asp Pro Leu Asp Trp Asn Gly Asp His
 645 650 655
 Ile His Thr Asn Phe Arg Asp Met Tyr Gln His Leu Arg Ser Met Gly
 660 665 670
 Tyr Phe Val Glu Val Leu Gly Ala Pro Phe Thr Cys Phe Asp Ala Ser
 675 680 685
 Gln Tyr Gly Thr Leu Leu Met Val Asp Ser Glu Glu Glu Tyr Phe Pro
 690 695 700
 Glu Glu Ile Ala Lys Leu Arg Arg Asp Val Asp Asn Gly Leu Ser Leu
 705 710 715 720
 Val Ile Phe Ser Asp Trp Tyr Asn Thr Ser Val Met Arg Lys Val Lys
 725 730 735
 Phe Tyr Asp Glu Asn Thr Arg Gln Trp Trp Met Pro Asp Thr Gly Gly
 740 745 750
 Ala Asn Ile Pro Ala Leu Asn Glu Leu Leu Ser Val Trp Asn Met Gly
 755 760 765
 Phe Ser Asp Gly Leu Tyr Glu Gly Glu Phe Thr Leu Ala Asn His Asp
 770 775 780
 Met Tyr Tyr Ala Ser Gly Cys Ser Ile Ala Lys Phe Pro Glu Asp Gly
 785 790 795 800
 Val Val Ile Thr Gln Thr Phe Lys Asp Gln Gly Leu Glu Val Leu Lys
 805 810 815
 Gln Glu Thr Ala Val Val Glu Asn Val Pro Ile Leu Gly Leu Tyr Gln
 820 825 830

Ile Pro Ala Glu Gly Gly Gly Arg Ile Val Leu Tyr Gly Asp Ser Asn
 835 840 845
 Cys Leu Asp Asp Ser His Arg Gln Lys Asp Cys Phe Trp Leu Leu Asp
 850 855 860
 Ala Leu Leu Gln Tyr Thr Ser Tyr Gly Val Thr Pro Pro Ser Leu Ser
 865 870 875 880
 His Ser Gly Asn Arg Gln Arg Pro Pro Ser Gly Ala Gly Ser Val Thr
 885 890 895
 Pro Glu Arg Met Glu Gly Asn His Leu His Arg Tyr Ser Lys Val Leu
 900 905 910
 Glu Ala His Leu Gly Asp Pro Lys Pro Arg Pro Leu Pro Ala Cys Pro
 915 920 925
 Arg Leu Ser Trp Ala Lys Pro Gln Pro Leu Asn Glu Thr Ala Pro Ser
 930 935 940
 Asn Leu Trp Lys His Gln Lys Leu Leu Ser Ile Asp Leu Asp Lys Val
 945 950 955 960
 Val Leu Pro Asn Phe Arg Ser Asn Arg Pro Gln Val Arg Pro Leu Ser
 965 970 975
 Pro Gly Glu Ser Gly Ala Trp Asp Ile Pro Gly Gly Ile Met Pro Gly
 980 985 990
 Arg Tyr Asn Gln Glu Val Gly Gln Thr Ile Pro Val Phe Ala Phe Leu
 995 1000 1005
 Gly Ala Met Val Val Leu Ala Phe Phe Val Val Gln Ile Asn Lys Ala
 1010 1015 1020
 Lys Ser Arg Pro Lys Arg Arg Lys Pro Arg Val Lys Arg Pro Gln Leu
 1025 1030 1035 1040
 Met Gln Gln Val His Pro Pro Lys Thr Pro Ser Val
 1045 1050

<210> 209
 <211> 280
 <212> PRT
 <213> Homo sapiens

<400> 209
 Arg Ala Ile Pro Arg Gln Val Ala Gln Thr Leu Gln Ala Asp Val Leu
 1 5 10 15
 Trp Gln Met Gly Tyr Thr Gly Ala Asn Val Arg Val Ala Val Phe Asp
 20 25 30
 Thr Gly Leu Ser Glu Lys His Pro His Phe Lys Asn Val Lys Glu Arg

35

40

45

Thr Asn Trp Thr Asn Glu Arg Thr Leu Asp Asp Gly Leu Gly His Gly
50 55 60

Thr Phe Val Ala Gly Val Ile Ala Ser Met Arg Glu Cys Gln Gly Phe
65 70 75 80

Ala Pro Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln
85 90 95

Val Ser Tyr Thr Ser Trp Phe Leu Asp Ala Phe Asn Tyr Ala Ile Leu
100 105 110

Lys Lys Ile Asp Val Leu Asn Leu Ser Ile Gly Gly Pro Asp Phe Met
115 120 125

Asp His Pro Phe Val Asp Lys Val Trp Glu Leu Thr Ala Asn Asn Val
130 135 140

Ile Met Val Ser Ala Ile Gly Asn Asp Gly Pro Leu Tyr Gly Thr Leu
145 150 155 160

Asn Asn Pro Ala Asp Gln Met Asp Val Ile Gly Val Gly Gly Ile Asp
165 170 175

Phe Glu Asp Asn Ile Ala Arg Phe Ser Ser Arg Gly Met Thr Thr Trp
180 185 190

Glu Leu Pro Gly Gly Tyr Gly Arg Met Lys Pro Asp Ile Val Thr Tyr
195 200 205

Gly Ala Gly Val Arg Gly Ser Gly Val Lys Gly Gly Cys Arg Ala Leu
210 215 220

Ser Gly Thr Ser Val Ala Ser Pro Val Val Ala Gly Ala Val Thr Leu
225 230 235 240

Leu Val Ser Thr Val Gln Lys Arg Glu Leu Val Asn Pro Ala Ser Met
245 250 255

Lys Gln Ala Leu Ile Ala Ser Ala Arg Arg Leu Pro Gly Val Asn Met
260 265 270

Phe Glu Gln Gly His Gly Lys Leu
275 280

<210> 210

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 210

Ile Lys Asp Phe His Val Tyr Phe Arg Glu Ser Arg Asp Ala Gly
1 5 10 15

<210> 211

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 211

Asp Ala Glu Leu His Ile Phe Arg Val Phe Thr Asn Asn Gln Val
1 5 10 15